

REMARKS

The following claims are pending in the application: 1 – 18 and 44 – 46

The following claims have been amended: 1, 8, 44,

The following claims have been deleted: Not applicable

The following claims have been added: Not applicable

As a result of the foregoing Amendment, the following claims remain pending in the application: 1 – 18, and 44 – 46.

Comment on Attorney Docket Number

Please amend the attorney docket number to "OSU1159-141A" from "OSU1159-141". Thank you.

The Objection to the Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference signs not mentioned in the description: 38 in Figure 13.

Applicant has amended the paragraph beginning on page 30, line 8 to properly identify the reference sign "38" as the second conductive component. Applicant respectfully submits that no new matter was added in doing so.

The Rejection Under 35 U.S.C. §102(b)

The Examiner has rejected claims 8, 13, 14, and 18 under 35 U.S.C. §102(b) as being anticipated by Hamers et al. (US Pat. No. 5,908,692).

Applicant has amended claim 8 to more accurately claim the subject matter of the present invention. Specifically, Applicant has amended claim 8 to reflect the fact the contact surface of the substrate is *substantially devoid of dimers oriented in a substantially identical direction*. Applicant respectfully directs the Examiner's attention to column 5, lines 5 – 13 of Hamers wherein the possible substrates are discussed. Although Hamers teaches a variety of materials, it should be noted that Hamers further teaches that each material has a specific crystal plane exposed for the reaction. This is important because Hamers teaches a 2+2 cycloaddition or insertion reaction that requires exposed dimers. The present invention is not reliant upon the presence of dimers on the contact surface – accordingly, claim 8 has been amended to reflect this fact. As Hamers fails to teach a substrate having a contact surface substantially devoid of dimers, Hamers cannot be said to anticipate the present invention as recited in claim 8. Accordingly, Applicant respectfully submits that the Examiner's outstanding rejection with respect to claims 8, 13, 14, and 18 may be properly withdrawn.

The Examiner has rejected claims 8 – 11, 13, and 18 under 35 U.S.C. §102(b) as being anticipated by Weaver et al. (US Pat. No. 5,208,154). The Examiner takes the position that since all the bonds in quinone (a suitable electrochemically active material) are conjugated, the bond through which it is attached to the surface must also be conjugated.

Applicant respectfully submits that the Examiner's contention that the bond from the quinone to the surface must be conjugated is erroneous. Weaver teaches and only teaches that the quinone is bonded to the surface by a silane linkage, specifically 3-

aminopropyl trimethoxysilane (his Example 2). This linkage does not produce a conjugated bond, as alleged by the Examiner, but rather an aliphatic, non-conjugated bond. Accordingly, Weaver cannot be said to teach a conjugated bond between the molecular units and the substrate. Therefore, Weaver cannot be said to teach each and every limitation of the present invention as recited in claim 8. Accordingly, Applicant respectfully submits that the Examiner's outstanding rejection with respect to claims 8 – 11, 13, and 18 may be properly withdrawn.

The Rejection Under 35 U.S.C. §102(b) / 103(a)

The Examiner has rejected claims 1 – 3, 7, 12, 15 – 17, 44, and 45 under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over Hamers et al. (US Pat. No. 5,908,692).

Applicant has amended claims 1 and 44 to more accurately claim the present invention – adding the limitation that the *contact surface is substantially devoid of dimers oriented in a substantially identical direction*. Applicant respectfully directs the Examiner's attention to column 5, lines 5 – 13 of Hamers wherein the possible substrates are discussed. Although Hamers teaches a variety of materials, it should be noted that Hamers further teaches that each material has a specific crystal plane exposed for the reaction. This is important because Hamers teaches a 2+2 cycloaddition or insertion reaction that requires exposed dimers. The present invention is not reliant upon the presence of dimers on the contact surface – accordingly, claims 1 and 44 have been amended to reflect this fact. As Hamers fails to teach a substrate having a contact surface substantially devoid of dimers, Hamers cannot be said to either anticipate the

present invention or render it an obvious variation of the prior art. Accordingly, Applicant respectfully submits that the Examiner's outstanding rejection with respect to claims 1 – 3, 7, 12, 15 – 17, 44, and 45 may be properly withdrawn.

The Rejection Under 35 U.S.C. §103(a)

The Examiner has rejected claims 1, 2, 4 – 7, 12, 15 – 17, and 44 – 46 under 35 U.S.C. §103(a) as being unpatentable over Weaver et al. (US Pat. No. 5,208,154) in view of Wegner et al. (US Pat. No. 4,828,917). The Examiner takes the position that Weaver teaches all the limitations of the cited claims except for requiring that the substrate have a roughness less than or equal to the average length of the electrochemically active material and less than 5 angstroms. The Examiner takes the position that Wegner discloses the desirability of having a smooth substrate when forming a monolayer to allow for a well defined layer. (Column 4, lines 35 – 38).

Applicant respectfully submits that the combination of Weaver with Wegner fails to render the present invention an obvious variation of the prior art. Specifically, neither Weaver nor Wegner teaches a conjugated bond formed between the molecular units and the substrate. Weaver teaches and only teaches that the quinone is bonded to the surface by a silane linkage, specifically 3-aminopropyl trimethoxysilane. This linkage does not produce a conjugated bond, as alleged by the Examiner, but rather an aliphatic, non-conjugated bond. Wegner teaches and only teaches a Langmuir-Blodgett technique for depositing a film on a substrate. The deposited film is not chemically bonded to the substrate. Thus, the combination of Weaver and Wegner cannot fairly be said to teach a conjugated bond between the molecular units and the substrate. Further, one would not

be motivated to combine Weaver with Wegner as Weaver is directed to chemically binding molecular units onto a substrate through non-conjugated bonds while Weaver is directed to the mere physical deposition of a film upon a substrate. Thus, one would not be motivated to combine the divergent teachings of these two references. Accordingly, Applicant respectfully submits that the Examiner's outstanding rejection may be properly withdrawn.

Double Patenting Rejection

The Examiner has provisionally rejected claims 1 – 18 and 44 – 46 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 7 – 11, 16, 22 – 30, and 56 – 58 of co-pending Application No. 10/376,865.

Applicant notes the Examiner's provisional rejection and will file a terminal disclaimer should the provisional rejection mature into a non-provisional rejection during prosecution.

CONCLUSION

In view of the foregoing amendment and accompanying remarks, the Applicant respectfully submits that the present application is properly in condition for allowance and may be passed to issuance upon payment of the appropriate fees.

Telephone inquiry to the undersigned in order to clarify or otherwise expedite prosecution of the subject application is respectfully encouraged.

Respectfully submitted,

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